

Amendments to the Claims

Please amend the claims as follows (the changes are shown with ~~striketrough~~ for deleted matter and underlining for added matter). A complete listing of the claims is set out below with proper claim identifiers.

1. (Original) A 3-dimensional porous scaffold for tissue regeneration which comprises a structure composed of vertically long-shaped pores having a pore diameter of not less than 10 μm to not more than 500 μm and pore length of not less than 20 μm to not more than 1 cm being juxtaposedly arranged, and the spaces between the juxtaposed pores being communicated with small pores having a pore diameter of not more than 10 μm .

2. (Original) The 3-dimensional porous scaffold according to Claim 1, which has an approximately flat plate-shape with vertically long-shaped pores in the thickness direction being juxtaposedly arranged in the surface direction, and one side face being subjected to pore-opening treatment.

3. (Currently Amended) ~~The 3-dimensional porous scaffold according to Claim 1 or 2~~Claim 2, which is composed of a biocompatible material.

4. (Original) The 3-dimensional porous scaffold according to Claim 3, wherein the biocompatible material contains at least one selected from the group consisting of polylactic acid, polyglycolic acid, lactic acid/glycolic acid copolymer, poly ϵ caprolactone, and lactic acid/ ϵ caprolactone copolymer.

5. (Original) A process for producing the 3-dimensional porous scaffold according to Claim 1

which comprises the following steps:

- a) dissolving a scaffold material in an organic solvent,
- b) pouring the prepared solution into a mold, and freezing the solution at a cooling rate of not slower than 3°C/minute, and

- c) drying the frozen solution in vacuum to remove the organic solvent.

6. (Original) A process for producing the 3-dimensional porous scaffold according to Claim 2

which comprises the following steps:

- a) dissolving a scaffold material in an organic solvent,
- b) pouring the prepared solution into a mold forming an approximately flat plate-shape, and freezing the solution at a cooling rate of not slower than 3°C/minute,
- c) drying the frozen solution in vacuum to remove the organic solvent, and
- d) separating the dried scaffold in the central region of the thickness direction in the flat plate direction.

7. (Original) A process for producing the 3-dimensional porous scaffold according to Claim 2

which comprises the following steps:

- a) dissolving a scaffold material in an organic solvent,
- b) dispersing a granular salt in a mold forming an approximately flat plate-shape,
- c) pouring the prepared solution into said mold, and freezing the solution at a cooling rate of not slower than 3°C/minute,
- d) drying the frozen solution in vacuum to remove the organic solvent, and
- e) removing the granular salt by washing with water.

8. (Original) The process for producing a 3-dimensional porous scaffold according to Claim 7,

wherein the granular salt is a mineral salt and/or organic salt.

9. (Currently Amended) A 3-dimensional cell combination which is obtainable by culturing a cell or precursor cell derived from a tissue in the 3-dimensional porous scaffold according to ~~Claim 1 or 2~~Claim 1 in an artificial environment and/or the living body.

10. (Original) The 3-dimensional cell combination according to Claim 9, wherein the cell or precursor cell derived from a tissue is derived from a bone, cartilage, ligament, tendon, blood vessel, skin, fat, muscle, nerve, heart, liver, pancrea, intestine, kidney, cornea, bladder, ureter, urethra, breast, marrow, or cord blood.

11. (Original) The 3-dimensional cell combination according to Claim 10, wherein the cell or precursor cell derived from a tissue is derived from a bone, articular cartilage, ligament or tendon.

12. (Original) The 3-dimensional cell combination according to Claim 10, wherein the cell or precursor cell derived from a tissue is derived from the marrow, fat, liver, or cord blood.

13. (Original) The 3-dimensional cell combination according to Claim 10, wherein the cell or precursor cell derived from a tissue is a mesenchymal stem cell.

14. (Original) A 3-dimensional cell combination which is obtainable by culturing a cell or precursor cell derived from a tissue in the 3-dimensional porous scaffold produced by the process according to Claim 7 in an artificial environment and/or the living body, and has a compression modulus of not less than 1/10 of the normal cartilage.

15. (Original) A 3-dimensional cell combination which is obtainable by culturing a cell or precursor cell derived from a tissue in the 3-dimensional porous scaffold produced by the process according to Claim 7 in an artificial environment and/or the living body, and has a tissue structure more similar to the normal cartilage with the thickness from the side subjected to pore-opening treatment or side not subjected to pore-opening treatment being within the range of 1 to 90% of the whole thickness.

16. (Currently Amended) A process for producing a 3-dimensional cell combination

which comprises seeding a cell or precursor cell derived from a tissue in the 3-dimensional porous scaffold according to ~~Claim 1 or 2~~Claim 1, and culturing the cell in an artificial environment and/or the living body.

17. (Original) The process for producing a 3-dimensional cell combination according to Claim 16,

wherein the cell or precursor cell derived from a tissue is subjected to stand culture under 3-dimensional environment for 1 to 48 hours beforehand.

18. (Canceled)

19. (Currently Amended) The process for producing a 3-dimensional cell combination according to ~~any one of Claims 16 to 18~~Claim 18,

wherein the culture in an artificial environment is carried out under the condition of moving a culture fluid at a rate of 0.1 to 50 cm per second relative to the scaffold.

20. (Currently Amended) A medical treatment method of cartilage damage

which comprises transplanting the 3-dimensional porous scaffold according to ~~any one of Claims 1 to 4~~Claim 1, ~~or the 3-dimensional cell combination according to any one of Claims 9 to 15~~ into the living body.

21. (New) A medical treatment method of cartilage damage
which comprises transplanting the 3-dimensional cell combination according to Claim 9 into the living body.